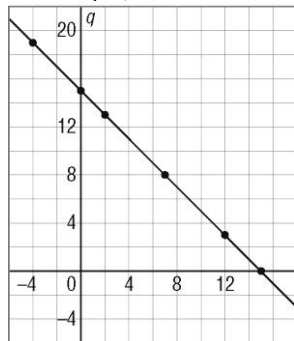


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9. a) Tables may vary. For example,

p	q
-4	19
0	15
2	13
7	8
12	3
15	0



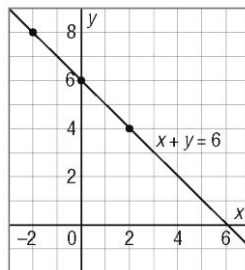
b) Yes, since p and q can be fractions, the points should be joined with a line.

c) Since the two numbers add up to 15, an equation is: $p + q = 15$

10. a)

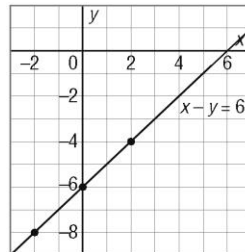
i) $x + y = 6$

x	y
-2	8
0	6
2	4



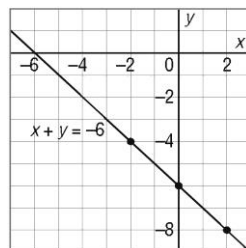
ii) $x - y = 6$

x	y
-2	-8
0	-6
2	-4



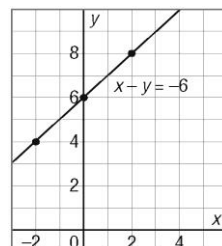
iii) $x + y = -6$

x	y
-2	-4
0	-6
2	-8



iv) $x - y = -6$

x	y
-----	-----



-2	4
0	6
2	8

- b) All the graphs are straight lines, so they represent linear relations.

For the graphs in parts i and iii, as x increases by 1, y decreases by 1.

For the graphs in parts ii and iv, as x increases by 1, y increases by 1.

The graphs in parts i and iv intersect the y -axis at 6.

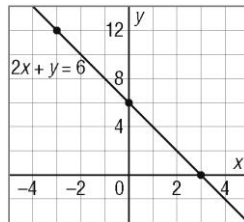
The graphs in parts ii and iii intersect the y -axis at -6.

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15.

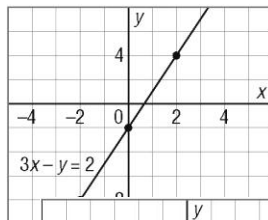
a) $2x + y = 6$

x	y
-3	12
0	6
3	0



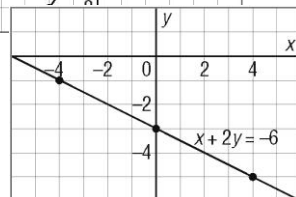
b) $3x - y = 2$

x	y
-2	-8
0	-2
2	4



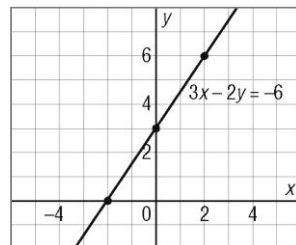
c) $x + 2y = -6$

x	y
-4	-1
0	-3
4	-5



d) $3x - 2y = -6$

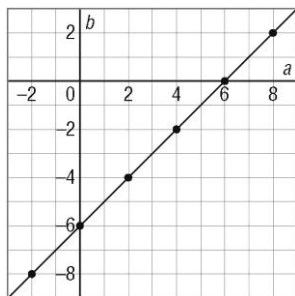
x	y
-2	0
0	3
2	6



17. a)

a	b
-2	-8
0	-6
2	-4
4	-2
6	0
8	2

c)

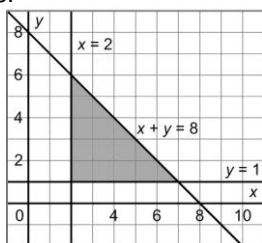


b) Since the numbers a and b could include values between the plotted points, the points should be joined.

c) Since the 2 numbers have a difference of 6 and the greater number is a , an equation is: $a - b = 6$

18. a) $x = 2$ is a vertical line intersecting the x -axis at 2; $y = 1$ is a horizontal line intersecting the y -axis at 1. Make a table for $x + y = 8$:

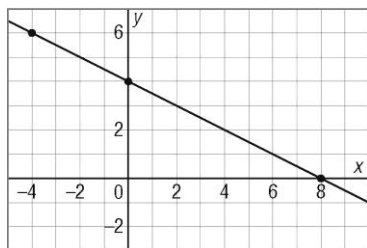
$x + y = 8$	
x	y
8	0
5	3
0	8



b) The lines form a right triangle. I know the angle at $(2, 1)$ is a right angle because the horizontal line $y = 1$ and the vertical line $x = 2$ are perpendicular. The line $x + y = 8$ is oblique and is the hypotenuse of the right triangle.

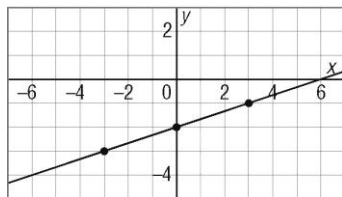
21. a) $\frac{1}{2}x + y = 4$

x	y
-4	6
0	4
8	0



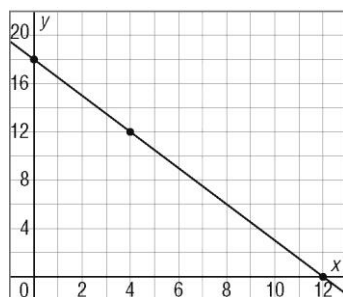
b) $\frac{1}{3}x - y = 2$

x	y
-3	-3
0	-2
3	-1



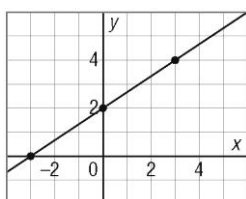
c) $\frac{1}{2}x + \frac{1}{3}y = 6$

x	y
0	18
4	12
12	0



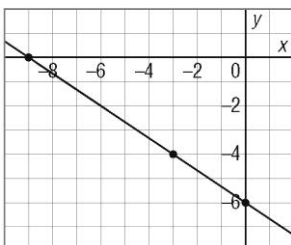
d) $\frac{1}{3}x - \frac{1}{2}y = -1$

x	y
-3	0
0	2
3	4



e) $\frac{1}{3}x + \frac{1}{2}y = -3$

x	y
-9	0
-3	-4
0	-6



f) $\frac{1}{4}x - \frac{1}{2}y = 1$

x	y
-4	-4
2	-1
6	1

